

### **ABSTRACT**

Forming an arrangement of two ceramic barrier layers (5, 10) on a polymeric substrate (1) includes the steps of applying a first ceramic barrier layer (5) on the substrate (1). The surface (5A) of the first barrier layer (5) is modified to introduce new nucleation sites on the surface of the first layer. A second ceramic barrier layer (10) is  
5 formed on the first barrier layer (5) using the new nucleation sites. The second ceramic barrier layer is deposited with independent nucleation sites such that a barrier stack of enhanced quality is formed.

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